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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,584	09/22/1999	CHARLES D. GAVRILOVICH	GAVRILOVICH-	4845

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EXAMINER	
CONTEE, JOY KIMBERLY	
ART UNIT	PAPER NUMBER
2686	

DATE MAILED: 11/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/401,584	GAVRILOVICH, CHARLES D.	
	Examiner	Art Unit	
	Joy K Contee	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *06 August 2003* .

2a)☒ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-36 and 49-123* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *63-82 and 97-102* is/are allowed.

6)☒ Claim(s) *30-36,49,54-62,83-89,93,103,107,113,118 and 119* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This is in response to the Applicant's amendments and arguments received August 6, 2003 in which claims 113-123 have been added. Claims 30-36 and 49-123 are currently pending.

Response to Arguments

2. Applicant's arguments filed August 6, 2003 have been fully considered but they are not persuasive. Regarding claims 30-36, 49,83-88 and 107-112, Examiner maintains the rejection applied by Examiner Gelin in the May 15, 2003 detailed office action.

With respect to Applicant's arguments against the rejections under 35 USC 112, Examiner asserts that it is not found in the background of the disclosure, reference to a numerical quantity or range associated with number of mobile users per square kilometers. Regardless of what is "well known", for example, Applicant argues that " the number of users per cell site to increase the bandwidth per channel" is well known, a exact number is not inherent and can not be assumed from specification.

In light of the amendments to claims 30-36 and 49, filed August 6, 2003, Examiner can not find a clear distinction between an "actual motion" and the "anticipated motion" of the mobile unit. If the "anticipated motion" is along the predetermined path, what is the "actual motion"? Is it not the user carrying the mobile unit around within the space of the elevator or outside of the elevator in Yokoi? Examiner asserts that this "carrying" movement or motion of the mobile unit is independent of that motion.

Regarding claims 55 and 56 Examiner maintains that Charas teaches a base station having a frequency converter that transmits and receives RF information in the 1500 MHZ which is greater than 300 MHZ (col. 4, lines 6-11, col. 5, lines 24-34). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to implement the technique of Charas within the system of Yokoi in order to transmit and receive the high RF signal to a communication unit inside a vehicle, and synchronize the output frequencies of the high RF signal and low RF signal and avoid interference if two or more vehicles are close to each other and are receiving signals from the same base station.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 83-88 and 107-112 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

After reading the specification, the Examiner does not find a specific passage that corresponds to limitations of claims 83-85. For instance, claim 83 recites a communication system adapted to simultaneously provide a communication channel

having a data rate of at least 2 megabits per second to each of a plurality of mobile units traveling at a speed greater than 45 kilometers per hour, wherein the density of mobile units to geographic area is at least 6,500 mobile users per square kilometer. This limitation is nowhere to be found in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 30-36, and 49, 54, 58, 61, 62, 89, 93, and 103,113-123 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoi et al (US 5,282,239).

Regarding claims 30,113 and 119, Yokoi teaches a transmitter and (method of) moving communication cell (i.e., within moving base station 10 or 20) adapted to transmit a signal to a mobile unit (i.e., portable telephone 2 or 19) while the transmitter and moving communication cell (i.e., moving base station 10 or 20) has a motion relative to Earth along a predetermined path (i.e., moving base station 10 or 20 is coupled to an elevator, which has the capability to move relative to earth) and in accordance with an anticipated motion of the mobile unit (i.e., a person carries the portable telephone, and moves relative to the moving base station and the earth), wherein the motion of the transmitter and moving communication cell is controlled (i.e.,

typically a person presses a floor number for the elevator to move, then the portable telephone in communication via the moving base hands off the call to another base station) independently to the anticipated motion of the mobile unit (see, col. 4, lines 37-64, col. 5, line 38-67, col. 7, lines 11-63, and col. 8, lines 5).

"With respect to claim 89, the claim is rejected as being anticipated by Yokoi for the same reason as claim 30 above."

Regarding claims 31,114 and 120, Yokoi teaches wherein the predetermined path (i.e., parallel track is the path) has a contour corresponding to a roadway contour and the anticipated motion of the mobile unit is on the roadway (col. 8, lines 24-34).

Regarding claim 32, Yokoi teaches a wherein the transmitter is further adapted to travel on a conveyor device along the predetermined path (col. 7, lines 21-38, col. 8, lines 24-34).

Regarding claim 33, Yokoi teaches wherein the signal corresponds to a received signal received at the transmitter from a fixed radio port (i.e., sending a call via the moving base, col. 4, lines 6, lines 46-55).

Regarding claim 34, Yokoi teaches a receiver (i.e., within moving base station 10 or 20) adapted to receive a signal to a mobile unit (i.e., portable telephone 2 or 19) while the receiver (i.e., moving base station 10 or 20) has a motion relative to Earth along a predetermined path (i.e., moving base station 10 or 20 is coupled to an elevator, which has the capability to move relative to earth) and in accordance with an anticipated motion of the mobile unit (i.e., a person carries the portable telephone, and moves relative to the moving base station and the earth), wherein the motion of the receiver is

controlled (i.e., typically a person presses a floor number for the elevator to move, then the portable telephone in communication via the moving base hands off the call to another base station) independently to the anticipated motion of the mobile unit (see, col. 4, lines 37-64, col. 5, line 38-67, col. 7, lines 11-63, and col. 8, lines 5).

"With respect to claim 93, the claim is rejected as being anticipated by Yokoi for the same reason as claim 34 above."

Regarding claim 35, Yokoi teaches wherein the predetermined path (i.e., parallel track is the path) has a contour corresponding to a roadway contour and the anticipated motion of the mobile unit is on the roadway (col. 8, lines 24-34).

Regarding claim 36, Yokoi teaches a wherein the transmitter is further adapted to travel on a conveyor device along the predetermined path (col. 7, lines 21-38, col. 8, lines 24-34).

Regarding claim 49, Yokoi teaches a movable base station (10, 20) adapted to establish a communication link between a fixed port (4) and mobile unit (2) while the movable base station has a motion relative to Earth along a predetermined path (i.e., moving base station 10 or 20 is coupled to an elevator, which has the capability to move relative to earth) and in accordance with an anticipated motion of the mobile unit (i.e., a person carries the portable telephone, and moves relative to the moving base station and the earth), wherein the motion of the movable base station is controlled independently to the anticipated motion of the mobile unit (see, col. 4, lines 37-64, col. 5, line 38-67, col. 7, lines 11-63, and col. 8, lines 5).

Regarding claims 54,115-118,121-123, Yokoi teaches a movable base station (or moving communication cell) (10 or 20) adapted to have a motion relative to a fixed port (fixed base or central switch) along a predetermined path and in accordance with an anticipated motion of a mobile unit (col. 4, lines 37-59), comprising: a first radio interface (or gateway) adapted to establish a first communication link between the movable base station and the mobile unit (i.e., moving base in communication with the portable telephone 2, col. 4, lines 44-47); and a second radio interface adapted to establish a second communication link between the movable base station and the fixed port (typically user of the mobile can move the base station by the press of a button in the conveyance, and col. 4, lines 40-44), wherein the motion of the movable base station is independently controllable to the motion of the mobile unit (see, col. 4, lines 37-64, col. 5, line 38-67, col. 7, lines 11-63, and col. 8, lines 5).

Regarding claim 58, Yokoi teaches wherein the frequency band is a millimeter wave frequency band (i.e., low frequency band, col. 3, lines 61-63, col. 4, lines 32-33).

Regarding claim 61, Yokoi teaches a wherein the transmitter is further adapted to travel on a conveyor device along the predetermined path (col. 7, lines 21-38, col. 8, lines 24-34).

Regarding claim 62, Yokoi teaches wherein the signal corresponds to a received signal received at the transmitter from a fixed radio port (i.e., sending a call via the moving base, col. 4, lines 6, lines 46-55).

Regarding claim 103, Yokoi teaches a method of providing a communication connection between a communication network and a plurality of mobile units (such as

portable telephone 2) having a motion relative to a plurality of fixed ports (such as fixed base 4), wherein the plurality of fixed ports are communicatively coupled to the communication network, the method comprising the steps of: establishing a first communication link between the plurality of mobile units and a first fixed port of the plurality of fixed ports through a movable base station having a motion in accordance with the motion of the mobile units (col. 4, lines 37-59); and simultaneously handing off the plurality of mobile units to a second fixed port of the plurality fixed ports (col. 7, line 21 to col. 8, line 15).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 55, 56, 75, 76, 78, 81, and 82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi in view of Charas et al. (US 5,404,570).

Regarding claim 55, Yokoi teaches all the limitations above except wherein the first communication link and the second communication are established within a frequency band having a lower limit greater than 300 megahertz.

However, the preceding limitation is known in the art of communications. Charas teaches a base station having a frequency converter that transmits and receives RF information in the 1500 MHZ which is greater than 300 MHZ (col. 4, lines 6-11, col. 5, lines 24-34). Therefore, it would have been obvious to one of ordinary skill in the art, at

the time the invention was made, to implement the technique of Charas within the system of Yokoi in order to transmit and receive the high RF signal to a communication unit inside a vehicle, and synchronize the output frequencies of the high RF signal and low RF signal and avoid interference if two or more vehicles are close to each other and are receiving signals from the same base station.

Regarding claim 56, Yokoi in view of Charas teaches all the limitations above. Charas further teaches wherein the frequency band has a lower limit of 300 megahertz (col. 3, lines 61-63).

Regarding claims 75, 81, and 82, Yokoi in view of Charas teaches all the limitations above. Yokoi further teaches a processor adapted to establish a communication link between the plurality of mobile units and at least one of the plurality of fixed radio ports based on a plurality of signal quality indicators, each of the signal quality indicators corresponding to each of a plurality of transmitted signals transmitted from the plurality of fixed radio ports (col. 5, lines 47-62, col. 7, lines 21-38).

Regarding claim 76, Yokoi in view of Charas teaches all the limitations above. Charas further teaches wherein the frequency band has a lower limit of 300 megahertz (col. 3, lines 61-63).

Regarding claim 78, Yokoi teaches wherein the frequency band is a millimeter wave frequency band (i.e., low frequency band, col. 3, lines 61-63, col. 4, lines 32-33).

9. Claims 57, 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi in view of Ishikawa.

Regarding claims 57, 77, Yokoi teaches all the limitations except wherein the frequency band is an optical frequency band.

However, the preceding limitation is known in the art of communications. In the same field of endeavor, Ishikawa teaches an optical wavelength multiplex transmission method and optical dispersion compensation method (col. 7, lines 18-44). Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include operation using optical frequency band for the purpose of using signal light waves of some sort in order to transmit from the transmitter to the repeater and to the receiver in a situation where a line of sight communication path is available.

10. Claims 59-60, 79, 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoi in view of Barkats.

Regarding claims 59, 60, 79, and 80, Yokoi teaches all the limitations except wherein the frequency band comprises a frequency spectrum from 50 gigahertz to 70 gigahertz (i.e., an oxygen absorption frequency band).

In a similar field of endeavor, Barkats teaches a satellite (i.e., repeaters) communication using a range of available frequencies from 30 GHZ to 50 GHZ (col. 4, lines 15-20). Inherently a grater range would be available, e.g., 50 GHZ to 70 GHZ. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have modified Yokoi to include a higher frequency for communication for the purpose of utilizing a range in which there is not a shortage.

Allowable Subject Matter

11. Claims 63-74, and 97-102 are allowed.

12. Claims 50-53, 90-92, 94-96, 104-106 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy Contee whose telephone number is 703.308.0149. The examiner can normally be reached on 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

J Contee

Joy Contee
November 5, 2003

Marsha D Banks-Harold

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